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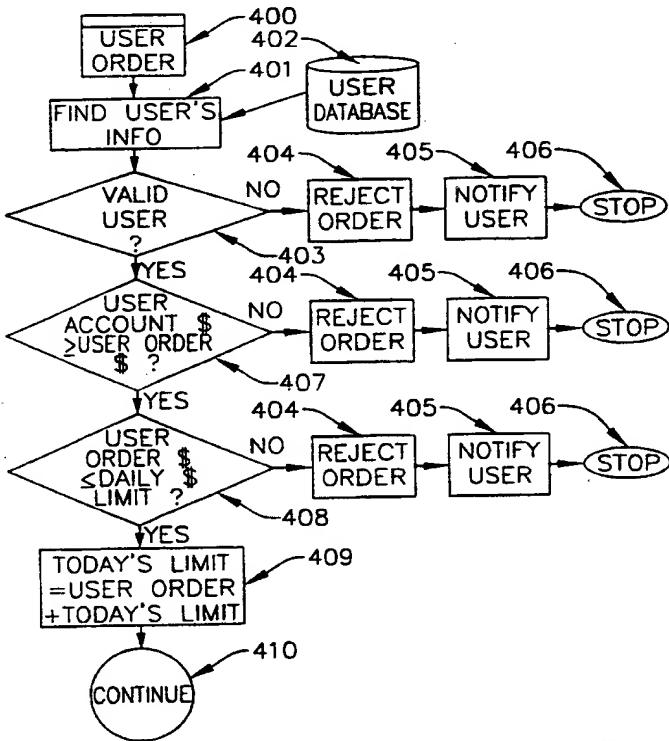
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## (57) Abstract

A user preregisters with a bank or financial institution by providing the user's photograph (402) and signature (402). Thereafter, the user can request and print PortraitCheques™ using a computer and printer. PortraitCheques™ are a cash-like financial instrument that provides positive visual identification of the owner in that the owner's preregistered picture (402) is printed on the face of the check. PortraitCheques™ provide positive identification in that the owner's signature is printed on the face of the check so that the owner can countersign the PortraitCheque™ in front of the bank or merchant. The user accesses PortraitCheque™ services (400) through a network. The PortraitCheque™ service verifies (403) the user's authority to request PortraitCheques™, confirms guarantee of the funds (407), debits the user's account, credits the guarantor's account, and fills the user's order by formatting and generating the preparation of a PortraitCheque™ according to the user's request (409).



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## APPARATUS, SYSTEM AND METHOD OF PRINTING THE AUTHORIZED USER'S PICTURE AND SIGNATURE ON A CHECK

### BACKGROUND

Merchants and consumers are far too often the victims of credit card and checking fraud and currency counterfeiting. When a buyer offers cash to a merchant, the merchant takes the currency on faith as being bona fide currency. If the merchant is wrong, the merchant suffers a loss.

When a buyer offers a personal check to a merchant, the merchant may request personal identification and may record the information concerning the identification offered on the back of the check. But if the check is a lost, stolen or fraudulent check, the identification offered may also be fake -- if the identification information is checked, the identification may either be completely fictitious, or it may be that the information "identifies" an innocent third party. Both the merchant, and the innocent consumer whose checks have been lost or stolen, or whose identification has been altered, can suffer.

Even if a personal check is presented by an authorized owner, the check may "bounce" if the account on which the check is drawn has insufficient funds.

Merchants do not consistently demand positive identification when presented with credit cards for payment. As is the case with lost, stolen or fabricated checks, recording any identification offered by the bearer of a credit card is of no use if the merchant simply records fake identification information.

Traveler's checks carry a guarantee of funds by a recognized financial institution. Traveler's checks also provide on their face a type of positive identification in that traveler's checks are signed when purchased in the bank where they are purchased, and must then be countersigned in front of the merchant or bank to which the traveler's checks are presented. One drawback of traveler's checks is that the user must buy them at a bank or other financial institution which is not necessarily convenient for the user.

What is needed is a cash-like financial instrument that is conveniently available to an authorized user that provides positive identification of the bearer and guarantees funds for the amount of the instrument.

### SUMMARY OF THE INVENTION

PortraitCheques™ are a cash-like financial instrument that can be printed at a computer printer convenient to the user, such as the user's own personal computer printer. The disclosure of U.S. Patent No. 4,083,635 is incorporated herein by reference, as if fully stated here, for all purposes. PortraitCheques™ provide positive visual identification of the owner in that the

owner's pre-registered picture is printed on the face of the check. PortraitCheques™ further provide positive identification in that the owner's pre-registered signature is printed on the face of the check so that the owner can countersign the PortraitCheque™ in front of the bank or merchant to whom the owner presents the PortraitCheque™.

A user pre-registers with a bank or financial institution by providing, among other things, the user's photograph and the user's signature. Thereafter, the user can request and print PortraitCheques™ using a computer and printer accessible by the user, such as the user's own personal computer and printer. The user accesses PortraitCheque™ services through the user-accessible computer, such as over the Internet. The PortraitCheque™ service verifies the user's authority to request PortraitCheques™, confirms guarantee of the funds, debits the user's account, credits the guarantor's account, and fills the user's order by formatting and generating the preparation of one or more PortraitCheques™ according to the user's request.

Many of the attendant features of this invention will be more readily appreciated as the same becomes better understood by reference to the following detailed description considered in connection with the accompanying drawings.

#### DESCRIPTION OF THE DRAWINGS

FIG. 1 is a graphical representation of traditional check stock.

FIG. 2 is a graphical representation of one embodiment of PortraitCheque™ stock.

FIG. 3 is an exemplary database organization of information collected in one embodiment of the invention by a PortraitCheque™ Guarantor administering PortraitCheque™ services.

FIG. 4 is a graphical representation of one embodiment of an online PortraitCheque™ Sign-On user interface screen.

FIG. 5 is a graphical representation of one embodiment of an online PortraitCheque™ Order user interface screen.

FIG. 6 is a graphical representation of one embodiment of an online PortraitCheque™ Order Verification user interface screen.

FIG. 7 is a graphical representation of one embodiment of an online PortraitCheque™ Transaction Status user interface screen.

FIG. 8 is a graphical representation of one embodiment of an online PortraitCheque™ Printing Status user interface screen.

FIG. 9 is a graphical representation of one embodiment of printed PortraitCheque™ checks.

FIG. 10 is a graphical representation of one embodiment of the interfaces between a user's computer and a host computer and certain elements of each computer system.

FIGS. 11a and 11b are flow diagrams representing the logic flow of one embodiment of

the invention.

FIG. 12 is a flow diagram representing the logic flow of a second embodiment of the invention.

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## DETAILED DESCRIPTION

According to one embodiment of the present invention, special check stock (hereinafter referred to as "PortraitCheque™ stock") is provided. The term "check" as used herein means a negotiable financial instrument. The user has an account with at least one bank, credit card company or other similar financial institution or financial service. The user preregisters with a bank, credit card company or other similar financial institution or financial service that sponsors PortraitCheque™ services and guarantees the amounts (the "PortraitCheque™ Guarantor") for which PortraitCheque™ checks are written.

As depicted in FIG. 10, a computer (300) is programmed to store information in a memory (301) about the user and to fill, record and track orders by each user for PortaitCheque checks (the "Host Computer"). The information stored in the computer memory is referred to herein as the User Database. Access to update or modify the User Database is tightly secured against update access by third parties. Access to view user photographs and signatures can be provided. The Host Computer may be a computer that is physically present in the physical offices of the Guarantor's office location. Alternatively, the Host Computer is any computer system that is accessible through electronic communications with the Guarantor.

The user (302) accesses a computer (303) configured with a display monitor (304), which may be the same computer as the Host Computer, or a different computer (the "User's Computer") that can communicate (306), such as electronically, with the Host Computer, such as through a direct connection, through an intranet, or through a global communications network such as the Internet. The terms "electronic connection" and "electronic communications" in the context of this application includes all types of communications between computers, including modem, telephone, cable, satellite, cellular, infrared and all forms of wireless communications. The User's Computer (303) is configured to communicate (307) with a printer (305) (the "User's Printer"). The term User's Printer includes but is not limited to offset printers, dot-matrix printers, ink-jet printers, laser-jet printers, laser printers, and further includes all printing devices with which the Host Computer can communicate electronically and/or telephonically either directly or indirectly. Further, the term User's Printer in the context of this application includes any device which transfers the communication of information from the Host Computer to a physical instrument, including imprinting the information, and also including electronic and/or magnetic recording of the information, on the physical instrument. The user (302) accesses the User's Computer (303) through a user interface displayed on the display monitor (304)

configured with the User's Computer. Through the user interface, the user (302) communicates a request to the Host Computer (300) to order a PortraitCheque™ check in an amount specified by the user (the "User's Order"). As part of the User's Order, the user requests that one or more PortraitCheque™ checks be printed, and causes the printing of one or more PortraitCheque™ check at the User's Printer (305) for the amount requested. As part of the User's Order, the user causes a debit to the user's account for the amount requested and a credit to the PortraitCheque™ Guarantor's holding account for the amount requested.

In one embodiment of the invention, the "Check" is a smart card, and the "User Printer" is a device that records information in electronic or magnetic form on the memory device of the smart card.

In one embodiment, the user places the order over the telephone. The Host Computer system prompts the user to enter the required information using voice instructions. Voice commands and/or telephone keypad commands are entered by the user in response to the Host Computer system's voice prompts. The user's telephone is electronically connectable to a User's Printer printing device.

The functions described above are described in an exemplary outline of functionality. The order of the functional descriptions are illustrative and are not limiting of the invention.

The printed PortraitCheque™ check is a negotiable instrument. The printed PortraitCheque™ check can only be presented to a merchant or other entity by the user/account holder. If the PortraitCheque™ check is presented to a merchant, the merchant must deposit the PortraitCheque™ check; the merchant cannot endorse the check for further use as can be done in the case of a traditional check.

### 1. Traditional Check Stock

PortraitCheque™ stock differs from traditional check stock in several ways. In order to understand the novelty of PortraitCheque™ stock, it is helpful to examine traditional check stock. FIG. 1 is a graphical representation of traditional check stock. Typically, traditional check stock is imprinted with the account holder's name and address (1), and bears a check number (2a and 2b) that is unique to the account holder's bank account (also referred to in the banking industry as the "transit field") (7). Traditional checks bear what are known in the banking industry as "MICR" numbers (8) located at the bottom of the check. Traditional check MICR numbers contain the routing number for the account holder's bank (also referred to in the banking industry as the "on us field" (6), the account holder's bank account number (7), and the check number (also referred to in the banking industry as the "auxiliary on us field") (2b). A single signature line is provided (9). The name and address of the bank with which the account holder maintains an account is printed on the check(5). The amount for which the check is made (4) is typically specified by the user. Typically, the user specifies the name of party to whom

the check is made (3).

## 2. PortraitCheque™ Check Stock

FIG. 2 is a graphical representation of one embodiment of PortraitCheque™ stock. In this embodiment, the account holder's picture (10) is printed on the face of the PortraitCheque™ check stock. The name of the bank or other financial institution (12) guaranteeing the amount of the check, the PortraitCheque™ Guarantor, (11) appears on the face of the PortraitCheque™ check stock. PortraitCheque™ check stock provides a space in which the amount of the check can be printed by a computer printer in numerical digits (14) and in alphabetic text (13). A space is provided in which a digitized impression of the user's signature can be printed by a computer printer (19). As is described in more detail below, the user will preregister with the guaranteeing financial institution. Preregistration will include the user supplying, among other things, the user's photograph and signature exemplar. The PortraitCheque™ check number (16a) is unique as to all other PortraitCheque™ check numbers, not just for the particular user's account. The PortraitCheque™ MICR numbers (17) contain the routing number for the PortraitCheque™ Guarantor's account (18), the PortraitCheque™ Guarantor's bank account number (20), and the unique PortraitCheque™ check number (16b). In one embodiment, the PortraitCheque™ MICR numbers (17) are printed against a blank background. The PortraitCheque™ check stock provides a place for the user to countersign the check (21). According to the above-described features, PortraitCheque™ checks provide merchants accepting PortraitCheque™ checks with positive identification of the bearer by displaying the picture of the individual (10) and the bearer's preregistered signature (19). PortraitCheque™ checks also provide the merchant with guaranteed funds. At the same time, PortraitCheque™ checks protect the bearer's privacy by not supplying the merchant with the user's/bearer's bank account information, a printed form of the user's/bearer's name, the user's/bearer's telephone number, or the user's/bearer's address.

The PortraitCheque™ check stock embodiment depicted in FIG. 2 contains only a single photograph. It should be understood that references herein to the user's photograph means the user's facial image, whether as a photograph on photographic film or in some other medium as with a digital file. In the preferred embodiment, the photograph is in color. Joint account holders or others can choose between multiple photographs, a single joint photograph, or separate check stock for each of the joint account holders. Joint account holders can further choose between printing digital representations of multiple signatures on the check or separate check stock for each of the joint account holders.

In one embodiment, the account holder's photograph does not appear on the PortraitCheque™ check stock but, as is described further later in this application, is instead printed on the PortraitCheque™ check stock when a check order is requested.

The embodiments of the invention described herein that explain the types of information

preprinted on the check stock are given for illustrative purposes only and are not in any way a limitation of the invention. According to the invention, embodiments in which little or no information is pre-printed on the check stock provide that all appropriate information is printed on the check stock at the User's Printer according to the invention and the data described herein contained in the memory of the Host Computer.

### **3. User Registration for PortraitCheque™ Services**

The present invention can be implemented in a number of ways. The embodiments described herein are exemplary and are not to be taken as limiting.

A user will typically register for PortraitCheque™ services by providing information similar to that required when opening an account with a bank. Registration can be done in several ways. Registration can be done by the user presenting the information in person at a physical place, such as the Guarantor's office location. Partial registration can be done over the telephone. In the case of telephone registration, signature and photograph exemplars is forwarded to the Guarantor by the user to complete registration. When registration is not done in person at the Guarantor's physical office location, signature and photograph exemplars can be forwarded to the bank either physically, such as by mail, or electronically, such as by fax, or preferably, by using a scanning device to digitize the signature and/or photograph exemplars and by electronically communicating the digitized form of the exemplars to the Guarantor's registrar. Similarly, when the user provides physical signature and photograph exemplars to the Guarantor, the Guarantor must digitize the exemplars, such as by scanning them with a scanning device, so that the exemplars can be saved in the memory of the Host Computer.

If the bank with which the user holds an account offers PortraitCheque™ services (that is, if the bank is a PortraitCheque™ Guarantor), then the user has probably already supplied much of the information. Furthermore, if the user has already supplied the PortraitCheque™ Guarantor with information necessary to register for online banking services, then the user has further supplied the PortraitCheque™ Guarantor with most of the information necessary to register for PortraitCheque™ services.

FIG. 3 is an exemplary database organization of information collected in one embodiment of the invention by a PortraitCheque™ Guarantor administering PortraitCheque™ services. According to one embodiment of the invention, as previously mentioned, the database is stored in the memory of the Host Computer, or is stored in memory that is accessible by the Host Computer. Standard information is collected such as how the account is held (30), and then for each account holder (31): the account holder's Name (32), Social Security number (33), Home Street Address (36), Home Mailing Address (37), Home telephone number (38), one or more personal e-mail addresses (39), Business Street Address (41), Business Mailing Address (42), and Business telephone number (43).

The following information would also be collected for each account holder (31): each Bank identification and each Bank Account number in which the account holder holds an account (44). In one embodiment, a single Bank identification and Bank Account number(44) is collected. In the case where the Guarantor is a bank, the bank identification is the identifier of the Guarantor and would not typically be collected and maintained for each individual account holder. In an embodiment of the invention in which the Guarantor offers PortraitCheque™ service to multiple banks, the following information would typically be recorded for each Bank identification and Bank Account number for one or more banks and for one or more accounts in each bank (44): Bank ID (45), Bank electronic routing number (46), user's Bank account number (47), the user's PIN for that Bank (48) and the user's Balance (48a).

Additionally, the following information would further be collected for each account holder (31): each Credit Company and Credit Card account number with which the account holder holds an account (49). In one embodiment, only a single Credit Company and Credit Card account number with which the account holder holds an account (49) is recorded. In an embodiment of the invention in which the Guarantor offers PortraitCheque™ service to multiple Credit Card Companies, the following information would typically be recorded for each Credit Company and Credit Card account number for one or more credit companies and for one or more accounts with each card company (49): Credit Company ID (50), Credit card account number (51), the user's PIN for that Credit card Company (52), and the user's Available Credit Limit (52a).

The following information would also be collected for each account holder (31): the account holder's Digitized Signature (34), the account holder's Digitized Photograph (35), PortraitCheque™ security code (40). One way in which the PortraitCheque™ security code would be provided is that it would be supplied by the PortraitCheque™ software installed on account holder's computer when the user first connects to the online PortraitCheque™ service. In one embodiment, the security code is initialized as described above but is available for modification by the user.

Information concerning each individual PortraitCheque™ check stock supplied to user under Guarantor's account (53) and each PortraitCheque™ order and presentment transaction are recorded and stored in the memory of the Host Computer. The memory of the Host Computer can be any type of computer memory, typically RAM such as on disk, hard drive, or other such memory device. For purposes of this application, the term "recorded" includes storing the information on the memory of such a computer memory storage device. For each individual PortraitCheque™ check stock supplied to the user under the Guarantor's account (53), the PortraitCheque™ check number (54) is recorded. In one embodiment, the date on which the PortraitCheque™ check number is supplied to the user (67) is also recorded. For each

PortraitCheque™ check ordered by the user (55) the following information is recorded: Check amount ordered (56), date ordered (57), Account (credit or bank) from which ordered (58), amount debited from user's account (59), Check amount presented (60), date presented (61), difference between amount ordered and amount presented (62), amount debited due to difference (63), date difference debited (64). In one embodiment, the PortraitCheque™ check number for which the user places an order is recorded with the order transaction (65). In one embodiment, the actual PortraitCheque™ check number presented for processing is recorded with the presentment transaction (66).

The information concerning the individual account and account holder (1-52) may be physically supplied to the Guarantor at the time the account is opened. Alternatively, the account holder may supply the information online, or through a any combination of online and physical delivery of the information requested.

The information concerning the PortraitCheque™ stock (53-54, and in one embodiment, the date of supply (67)) supplied to the user will be provided by the entity that supplies the check stock to the user (which may be the Guarantor, or a third party PortraitCheque™ check stock supplier).

#### 4. User Ordering for PortraitCheque™ Services

In one embodiment, the user can request a certain number of PortraitCheque™ check stock. This can be done through a hardcopy request delivered in person, by mail, by telephone, or online. In one embodiment, the user's request for PortraitCheque™ check stock includes an application procedure for a certain credit limit. The credit limit application can be made in person, by mail, by telephone, or online.

##### a. User Print

In one embodiment, once the user has supplied all of the information necessary to register for the PortraitCheque™ service, the user is supplied with PortraitCheque™ check stock, and can use a computer accessible by the user to order PortraitCheque™ checks. We will refer to this type of embodiment as the "User Print."

In one User Print embodiment, the user's photograph is pre-printed on the PortraitCheque™ check stock. In another User Print embodiment, the user's digitized photograph is downloaded from or otherwise communicated from the Guarantor's database to the user's computer each time the user orders one or more checks and is printed in color ink on each check ordered.

In one User Print embodiment, the user's signature is pre-printed on the PortraitCheque™ check stock. In another User Print embodiment, the user's digitized signature is downloaded from or otherwise communicated from the Guarantor's database to the user's computer each time the user orders one or more checks and is printed on each check ordered.

In one User Print embodiment, the user is provided software that must be installed on the user's computer. The software can be provided on transferrable memory medium such as CD-ROM, floppy disk, or other like memory medium. The software can also be provided through an online download over a computer network such as the Internet.

In another User Print embodiment, no software needs to be installed on the user's computer. In this embodiment, all of the PortraitCheque™ functionality is accessible online by accessing the Guarantor's PortraitCheque™ service website. In this embodiment, additional information is needed to properly format and print the PortraitCheque™ checks. The additional information required includes data concerning the user's computer system configuration, including among other things, the printer configuration.

Following is a description of one User Print embodiment. The PortraitCheque™ user elects the PortraitCheque™ service from the user's online banking or money management system. As shown in FIG. 4, the user enters a Member Sign-on screen where the user is asked to follow certain prompts for name (100), social security number (101) and password (102).

Navigation about the screen can be accomplished in a number of ways, including using a track-ball, mouse, or other such device to position the on-screen cursor to the appropriate position. Alternatively, the Tab bar on the user's computer keyboard can be used to move from one field to the next.

When the user has completed the necessary information, the PortraitCheque™ system validates the security information by comparing the information supplied by the user in the on screen query of the Member Sign-on screen with the security information contained in the Guarantor's database. This comparison can be done in multiple ways. In one embodiment, the security information for the particular user in the Guarantor's database is downloaded or otherwise communicated to the user's computer and the PortraitCheque™ system software installed on the user's computer performs the security validation. In another embodiment, the security information supplied by the user in the on screen query is uploaded or otherwise communicated to the Guarantor's PortraitCheque™ system which then performs the security validation. If the information is validated, the user is asked to click the on-screen "button" (103) to proceed to the next screen which is depicted in FIG. 5.

In FIG. 5, the user is asked to select the account from which the amount order is to be debited (110). The selection in this embodiment is a pull-down menu. The user is asked to identify the starting check number (111). The user is then asked to indicate the denomination of checks (115-117) to be printed and the number of checks for each denomination (112-114). In other embodiments, the user can specify a particular dollar amount as opposed to specifying a pre-defined denomination. However, in this embodiment, the denomination, such as with cash, must be selected from a pull-down menu. The online screen displays the starting check with the

appropriate check number (118). The user's picture displayed on-screen (121) is downloaded from or otherwise communicated from the Guarantor's database to the user's computer for one or more purposes, one of which is to display the picture on screen.

5 In one embodiment of the invention, persons other than the user can access this basic information displayed as an on-screen sample of the user's PortraitCheque™ check (118, 121). This on screen display can be used for various purposes, one of which is the verification of the validity of the PortraitCheque™ at the time that it is presented to a merchant. This type of feature will be referred to herein as the "Verification Feature."

10 In an embodiment that provides the Verification Feature, the merchant to whom a PortraitCheque™ is presented for use as a cash-like instrument has access to a computer with a display monitor and a device for user entry. The user entry device can be of various forms, including but not limited to a keyboard, a scanning device, or other similar device allowing user input. The user entry device is provided so that the merchant can enter the MICR number at the bottom of the PortraitCheque™ check presented by the user. In one embodiment the Verification Feature of the invention has been installed on the merchant's computer. In another embodiment, 15 the merchant's computer is capable of being electronically connected to a PortraitCheque™ system. For instance, the merchant's computer can be connected to one or more Guarantors' websites on the Internet or other global communications network.

20 It should be understood for purposes of this application that references to the Internet apply equally to any other global communications network and further apply to direct communications to a standalone system or network such as through a direct telephone line or other such communication.

25 Once the merchant is connected to the appropriate Guarantor's PortraitCheque™ website, the merchant enters the MICR number of the check. This input process can also be accomplished by a telephone link. However, it is desirable for the merchant to have access to a display monitor for the reasons set forth next.

30 Once the merchant has entered the MICR number of the presented check, which includes the unique PortraitCheque™ check number, the Guarantor's PortraitCheque™ Verification Feature searches the Guarantor's database for the unique PortraitCheque™ check number, which is related to a single account holder. The Guarantor's PortraitCheque™ Verification Feature then retrieves the account holder's digitized photograph and digitized signature from the Guarantor's database and generates the signals necessary to display the account holder's photograph and signature in the on screen display viewable by the merchant on the merchant's 35 display monitor.

There are several ways in which the account holder's photograph and signature can be displayed. In one embodiment, the digitized photograph and signature are downloaded or

otherwise communicated to the merchant's computer which then displays the information. In this case, the PortraitCheque™ Verification software would be installed on the merchant's computer and would receive the downloaded digitized photograph and signature and would generate the signals necessary to display the photograph and signature on the merchants display monitor. In another embodiment, the merchant's computer is connected electronically to the Guarantor's PortraitCheque™ system, such as through the Guarantor's PortraitCheque™ website. In this case, the Guarantor's PortraitCheque™ system retrieves the digitized photograph and signature from the database and generates the signals necessary to display the account holder's photograph and signature on the on screen display of the Guarantor's PortraitCheque™ website on the merchant's display monitor.

The account holder's photograph and signature can be displayed in a standalone fashion. In one embodiment, a sample blank check similar to the one displayed (118) in FIG. 5 would appear on the merchant's display monitor. The merchant would then be able to visually compare the photograph of the actual account holder on the display monitor with the photograph that appears on the check. If the PortraitCheque™ Verification Feature was unable to find a match of the MICR number, or if the merchant detected a visual difference between the photographs and the person presenting the check, then the merchant would be alerted to a possible fraud by the presenter.

Continuing with the online screen as depicted in FIG. 5, if the user is satisfied with the user's selections, the user is asked to click the on-screen "button" (119). Otherwise, the user has the option of clearing all field by clicking an alternative on-screen button (120).

FIG. 6 depicts the next screen in this User Print embodiment. The user is instructed to review the user's selections (130). The user's selections for Account information (131), starting check number (132), the number of \$25 denomination checks requested (133), the number of \$50 denomination checks requested (134), the number of \$100 denomination checks requested (135), the total dollar amount of checks requested (136), the total number of checks to be printed (137), and a sample check (138) are displayed on the screen. If the user is satisfied with the information displayed, the user is asked to click the on-screen "button" (139) to print checks. In one embodiment, the PortraitCheque™ system multiplies the number of checks by the amount of the check requested and sums the total amount requested (Total Amount Requested =  $(112*115)+(113*116)+(114*117)$ ). In one embodiment, the PortraitCheque™ system compares the Total Amount Requested by the user with the Balance (48a) that the user has with the bank selected or with the Available Credit Limit (52a) for the credit card selected. If the user's balance or credit limit are insufficient to cover the Total Amount Requested, then the user is notified and not allowed to proceed with the transaction as originally requested. In one embodiment, the PortraitCheque™ system calculates the total number of PortraitCheque™ check

5 stock available to the user. To do this, the PortraitCheque™ system counts the total number of PortraitCheque™ checks supplied to the user (sum of element 54) and subtracts the number of checks that have been ordered (sum of element 65). If the user requests that more checks be printed than the system calculates are available to the user, then the system alerts the user and does not allow the user to proceed with the transaction as requested.

10 When the user is alerted that the user has exceeded the number of checks available or has exceeded the amount of money available, the user is given the option of modifying the user's request as depicted on FIG. 5 and resubmitting the modified order. In one embodiment, the user is alerted to the above-mentioned warning conditions after completing the order as depicted in FIG. 5. In another embodiment, the user is alerted to the warning conditions after approving the transaction as depicted in FIG. 6. In another embodiment, the user is alerted to the warning conditions during the processing of the transaction, as depicted in FIG. 7 as described below.

15 As seen in FIG. 7, the status of the processing of the transaction is depicted. The user is instructed that the user's request to print checks is being processed (140). Various messages concerning the phase of processing are displayed as the procedure is completed (141). If the user decides to, the user can cancel the transaction by clicking the appropriate on-screen button (142).

20 As depicted in FIG. 8, the user is then given a series of instructions to prepare the user's printer and PortraitCheque™ check stock (150). Once the user has prepared the printer and the check stock, the user is asked to click the on-screen "button" to print the checks (151). The Guarantor's PortaitCheque system updates the PortraitCheque™ database for the particular user with the appropriate check number, date and amount ordered information; debits the user's account; and credits the Guarantor's holding account with the amount of money ordered by the user.

25 FIG. 9 depicts four checks printed according to the selections made by the user. The appropriate number of checks are printed for each denomination as selected by the user. The denomination is printed in text (160, 162, and 164) and in numeric digits (161, 163, 165). In this embodiment, the user's digitized signature is downloaded from or otherwise communicated from the Guarantor's database to the user's computer and printed on each check (166).

30 The embodiments of the invention described herein are only considered to be preferred and/or illustrative of the inventive concept; the scope of the invention is not to be restricted to such embodiments. Various and numerous other arrangements may be devised by one skilled in the art without departing from the spirit and scope of this invention. For instance, many of the functions described in embodiments herein as being performed by the host computer can be performed by the user's computer. Depending upon the embodiment, various and numerous other arrangements can be devised to allocate the performance of the functions described herein between the user's computer and/or the host computer. As an example, in one embodiment, the

user's computer formats the user interface online screens described herein, such as the online PortraitCheque™ Sign-On screen as depicted in FIG. 4, the online PortraitCheque™ Order screen as depicted in FIG. 5, the online PortraitCheque™ Order Verification screen as depicted in FIG. 6, the online PortraitCheque™ Transaction Status screen as depicted in FIG. 7, and the online PortraitCheque™ Printing Status screen as depicted in FIG. 8. The host computer provides the user's computer with the information such as account balance information. The user's computer performs the various types of checking and validation, and sends signals to the host computer to perform the actions to debit the user's account and credit the guarantor's account when such actions are appropriate.

10           **b. ATM/Automated Kiosk Printing**

An alternative type of embodiment to the User Print embodiment is one in which the user goes to an ATM or other similar type of Automated Kiosk device. For the sake of simplicity, references herein to this class of devices will be made by using the label "ATM". However it is not a limitation of the present invention that an existing bank ATM be used. Rather, it should be understood that independent ATM (or Automated Kiosk devices) can be provided for multiple purposes, one of which would be to provide PortraitCheque™ services or for the single purpose of providing PortraitCheque™ services.

In one embodiment of this aspect of the invention, PortraitCheque™ is one of the service options offered by the ATM. The user provides the user's ATM card and appropriate security information, such as the user's ATM Personal Identification Number ("PIN"), and selects the PortraitCheque™ option. Inside the ATM, PortraitCheque™ stock is loaded. Based on the user's selection, the ATM accesses the PortraitCheque™ service database and verifies the security information. The user requests a certain number of checks, either by selecting an appropriate denomination for multiple checks as described above for the User Print embodiment, or by entering a specific amount for each check. The ATM downloads or otherwise communicates and transfers the user's digitized photograph from the PortraitCheque™ database. In one embodiment, the ATM also downloads the user's digitized signature. The downloaded information is printed by the ATM on each check ordered by the user. The ATM prints the user's photograph in color on the check stock. The ATM also prints the text and numerical digits for the amount ordered for each check. In one embodiment, the ATM assigns and prints a check number, including printing the check number as part of the MICR number on the bottom of the check. In one embodiment, the MICR number is printed using magnetic toner. In another embodiment, instead of the ATM printing the check number, the check number has been pre-printed on the check stock, in which case the ATM reads the check number as it is used by a device such as an optical scanner. The ATM updates the PortraitCheque™ database for the particular user with the appropriate check number, date and amount ordered information; debits

the user's account; and credits the Guarantor's holding account.

##### 5. Computer Processing of a User PortraitCheque™ Order

FIGS. 11a and 11b are flow diagrams depicting the computer program processing by the Host Computer of a user order for PortraitCheque™ services. The User Order (400) is received by the Host Computer. The Host Computer is programmed to use the information contained in the User Order (400) to access the User Database (402) to find (401) the information contained in the User Database (402) concerning the particular user. The Host Computer is further programmed to validate the user's order (403) by comparing security and identification information contained in the User's Order (400) with information retrieved from the User Database (402). If the User's Order is not valid, the Host Computer is programmed to reject the order (404), notify the user that the order is rejected (405), and stop processing the order any further (406) until receiving further instructions from the user.

10 If the User's order is valid, then the Host Computer is programmed to compare (407) the amount of money for which the user is placing an order with the amount of money that the user has in the user's account as obtained from the User Database (402). If the amount of money in the user's account is not greater than or equal to the amount of money ordered by the User's Order, then the Host Computer is programmed to reject the order (404), notify the user that the order is rejected (405), and stop processing the order any further (406) until receiving further instructions from the user.

15 20 If the amount of money in the user's account is greater than or equal to the amount of money ordered by the User's Order, then the Host Computer is programmed to compare (408) the amount of money for which the user is placing an order with a pre-established daily limit for the amount of money that the user can order. In one embodiment, the daily limit is user-specific. In another embodiment, a single daily limit amount is used to limit the orders of each and every user--that is, no user is allowed to order more than, for instance, \$500.00 per day of PortraitCheque™ checks. If the amount of money for which the user is placing an order is not less than or equal to the amount of amount of the Daily Limit, then the Host Computer is programmed to reject the order (404), notify the user that the order is rejected (405), and stop processing the order any further (406) until receiving further instructions from the user.

25 30 35 If the amount of money for which the user is placing an order is less than or equal to the amount of the Daily Limit, then the Host Computer is programmed to update (409) the total amount of money for which the user has ordered that day ("Today's-Limit") with the amount of money being ordered. "Today's-Limit" is user-specific and is zeroed at the beginning of each day's processing, such as for instance, at 12:01 am each day. The zeroing is not depicted on the flow diagram.

Continuing (410) with the processing flow to FIG. 11b, the Host Computer is

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programmed to compare the user-specific value for Today's-Limit with the pre-established Daily Limit. If the user-specific Today's-Limit is not less than or equal the pre-established Daily Limit, then the Host Computer is programmed to reject the order (404), notify the user that the order is rejected (405), and stop processing the order any further (406) until receiving further instructions from the user.

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In one embodiment, none of steps 408, 409, or 411 are performed. In one embodiment, step 408 is performed but steps 409 and 411 are not performed. In another embodiment, some of steps 408, 409, and 411 are performed for certain specified users but are not performed for all users--performance of steps 408, 409, and 411 is determined by information contained in the User Database (402).

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Once the User's Order has been completely validated, the Host Computer fills the order (412) by accessing the User's data on the User Database, debiting the user's account (413) for the order amount, and transferring the amount of the order (414) to the Guarantor's account (415). The transfer (414) to the Guarantor's account (415) can be done by updates to the User Database. In another embodiment, the transfer (414) to the Guarantor's account (415) is performed by generating a transaction for an electronic transfer of money from the user's account to the Guarantor's account (415). The electronic transfer transaction can be addressed to (as with an electronic address), and communicated to, the bank or other financial institution with which the user has an account, as with electronic or telephonic communication links. The money transferred to the Guarantor's account (415) remains in that account until (often referred to in banking terms as "float") a merchant to whom the user has given one or more of the ordered checks presents one or more of the ordered checks for cash or other transfer processing. In one embodiment, the Guarantor's float can be subdivided between one or more parties of interest. As an example, the Guarantor, the user's bank, and the supplier of the PortraitCheque™ stock all share in some percentage of the float. This example of sharing the float is illustrative and is not a limitation of this feature. Once the transfer of money has been performed, the Host Computer is programmed to generate transactions (416) for printing the appropriate checks at the User Printer.

In one embodiment, the transfer of money from the user's account to the Guarantor's account is not performed immediately. In such a delayed funds transfer embodiment, the Host Computer is programmed to generate transactions (416) for printing the appropriate checks at the User Printer even though the funds have not yet been transferred to the Guarantor's account. In another embodiment, the Host Computer generates a transaction to transfer money from the user's account to a Clearing Account; once the funds have been processed through the Clearing Account, the funds are transferred from the Clearing Account to the Guarantor's account.

The Host Computer is further programmed to notify the user that the check(s) are ready

to be printed (417). When the user indicates that the User's Printer is ready (418), then the Host Computer is programmed to send the print check transaction(s) (420) to the User's Printer and wait for further instructions (406).

In one embodiment, communications between the User Computer and the Host Computer are encrypted. Encrypted data is communicated using a method of cryptography such as Secure Socket Layer (SSL) or any other method of cryptography. In another embodiment, selected portions of the communications between the User Computer and the Host Computer are encrypted.

## 6. Currency Exchange

References made herein in the disclosure of the present invention to money and dollars should be understood to apply equally to any and all foreign currencies. Further, according to one embodiment of the present invention, the Host Computer is programmed to perform foreign currency conversions at the user's request to print checks in any currency, including U.S. dollars as well as any foreign currency, to debit a user's account for a certain ordered amount of money and to transfer that money to the Guarantor's account in U.S. dollars as well as any foreign currency, and to perform all activities and functions according to one or more user-specified currencies.

The following example of the currency conversion and exchange capability of the present invention is illustrative. A user registered with a U.S. bank provider of PortraitCheque™ services accesses a PortraitCheque™-equipped ATM in a foreign country. Using the ATM's selection criteria, the user requests PortraitCheque™ services. The user requests a PortraitCheque™ check in the amount of \$50 (fifty U.S. Dollars) and selects the foreign currency option. Under the foreign currency option, the user requests that the PortraitCheque™ be printed in French francs and that the user's account be debited in U.S. dollars.

The Host Computer is programmed to debit the user's account for the amount of money ordered in the currency selected by the user and to convert the amount of money ordered by the user to the currency for which the user has specified the check to be printed, which in this example is the French Franc. The Host Computer is further programmed to allow the Guarantor to select the currency in which the Guarantor's account will be credited for the amount ordered.

In the example, because the user has specified that the user's account should be debited in U.S. dollars and that the check is to be printed in French francs, the user's account will be debited for \$50 U.S. Dollars, and the check is printed at the ATM in French francs for an amount equivalent to \$50 U.S. Dollars. In one embodiment, there is a service charge for each check printed, and the user can specify whether the service charge is to be additionally debited from the user's account, or alternatively, whether the service charge is to be subtracted from the check printed. The service charge option applies equally to domestic U.S. transactions as well as to

foreign transactions.

## FURTHER ILLUSTRATIVE EMBODIMENTS

Further illustrative embodiments are provided below.

One further illustrative embodiment of the present invention is as follows. FIG. 12 is a flow diagram of certain functions and elements of this embodiment of the invention. A Vendor supplies preprinted PortraitCheque™ check stock to the user. The pre-printed check stock includes MICR number encoding including a check number. The Vendor supplies a software package to the user to be installed on the user's computer hard drive. The user has supplied the vendor with user's photograph and signature, which the vendor has incorporated into the software package.

With the vendor's software and the user's information installed on the user's computer, PortraitCheque™ check stock is placed in the user's printer's access bin ready for use. The user activates PortraitCheque™ software by clicking a PortraitCheque™ icon (200), such as by clicking the icon with a computer mouse. PortraitCheque™ software brings up a security code challenge to the user that prompts the user to key in the user's password (201). The user keys in a password (202). The user's computer verifies the password (203). If the user has keyed in an incorrect password, the user's computer then again prompts the user to enter a password (201). If the user correctly keys in an authorized password, the PortraitCheque™ software connects the user's computer to the bank's computer (204). The user's computer connects to the bank's computer by using for instance a modem interface and dialing the user's bank's on-line computer or by connecting the user's computer to the Internet through an Internet service provider (ISP) which in turn connects the user to the bank's website through the Internet. If the connection is through the Internet, the user's computer provides the Internet address of the bank's website.

When the user is connected to the bank's on-line computer, the user's computer screen displays the bank's name together with a menu of available bank services (205). Also displayed is the bank's security code challenge that prompts the user to enter a password (206).

In response to the bank's security code challenge, the user enters the user's security challenge code (207). The bank's computer verifies the security code entered by the user (208). If the user enters incorrect security challenge code information, access to the bank's on-line services is denied and the user is prompted to re-enter the security code (206). If the user is unable to enter a correct password on the second try, the bank's computer terminates its program (216), notifies bank security (217) and terminates the Internet connection (218).

After entering correct security challenge code information, the user is presented with a PortraitCheque™ Order screen (209) and is asked to supply the user's next available

PortraitCheque™ check number (210). The user enters the next available PortraitCheque™ check number (211). The PortraitCheque™ check stock vendor supplies the bank with the start and end check numbers provided to each user. The bank's computer tracks the check numbers used by each user and checks the number provided by the user with the number that the bank's computer expects (212). In the event the next available PortraitCheque™ check number supplied by the user is inconsistent with the number that should be available according to the bank's tracking system, the bank's computer posts an onscreen message to the user's display monitor that the check number is incorrect and asks that the user re-enter the next check number (210). If the user again enters an incorrect check number, the bank's computer posts an onscreen request to the user's display monitor for the user's explanation of the disposition of missing check numbers (213). The user enters missing check numbers and explanations to reconcile the check number problem (214). If the user is unable to reconcile the check number problem, the bank's computer terminates its program (216), notifies bank security (217) and terminates the Internet connection (218).

Next, the bank's computer, unknown to the user, interrogates the user's PortraitCheque™ installation on the user's computer (219), for a unique security identification code. The PortraitCheque™ software installed on the user's computer is programmed to provide the appropriate unique security identification code. The bank's computer attempts to verify the security identification code (241). In the event the unique security identification code is incorrect or is not properly supplied, the bank's computer terminates its program (216), notifies bank security (217) and terminates the Internet connection (218).

If the user and the user's computer pass all security challenges, the bank's computer presents onscreen to the user's display monitor a PortraitCheque™ Order screen (220). The bank's computer then displays an onscreen request on the user's display monitor for the user to choose a payment method. The user can select to use the user's bank account as a payment method or a particular credit card account. If the user chooses to use the user's bank account as a payment method, the bank's computer requires entry by the user of the user's bank account type (e.g., savings or checking) and/or number. The bank's computer displays the funds available in the user's bank account (225). If the user chooses to pay through use of a credit card through the bank, the bank's computer displays the credit amount available to the user (223) and seeks credit card authorization (224). If the user selects some other credit card for use to pay, the bank's computer prompts the user to enter the card number and expiration date (222). Once the credit card information is entered by the user, the bank's computer seeks credit card authorization (224). In one embodiment, payment method authorization processing is done in parallel, in the background, while the user completes the order. If for some reason authorization fails, the bank's computer terminates its program (216), notifies bank security (217) and

terminates the Internet connection (218).

If the user enters correct and authorized payment information, the bank's computer allows the user to, and the user does, enter quantities of PortraitCheques™ checks and the particular denominations of PortraitCheques™ desired (226). A "Finish" or "Done" icon is also displayed. To complete the transaction, the user clicks the "Finish" or "Done" icon (227).

If the user enters a complete order and clicks the "Finish" or "Done" icon, the bank's computer displays a recapitulation of the user's order (228) [including check numbers, quantities, denominations, and total order amount to be debited from user's bank account] on the user's computer's display monitor screen. Two "boxes" are presented -- one labeled "correct"; the other labeled "incorrect". If the user clicks the "incorrect" box (229), the order entry screen is re-displayed and the user is allowed to modify the order (220). Once the user has completed the modifications to the order, the user clicks the "Finish" or "Done" icon to complete the order. A new recapitulation is posted on the user's screen (228) together with the "correct" or "incorrect" boxes.

If the user clicks the "correct" box (230), the bank's computer debits the user's bank account for the total amount of the PortraitCheques™ issued and credits the bank's PortraitCheque™ account for the same amount (231).

PortraitCheque™ affords several advantages to the bank. Unlike the user's personal demand deposit account, the bank need not prepare a monthly statement incorporating cleared PortraitCheques™. The bank merely posts a debit to the user's monthly bank account statement (or credit card statement, if the credit card was used as a source of funds). Reconciliation of all PortraitCheques™ issued by the bank to all users is done in one giant PortraitCheque™ account, as is done now by all issuers of traveler's checks. The bank further obtains the total value of interest earned on the float of the PortraitCheque™ account as is realized by issuers of traveler's checks.

Once the user clicks the "correct" box, the bank further records, for reconciliation upon clearing payment, the check numbers of the PortraitCheques™ approved together with the face amount of each check. An authorization number for this order is further recorded on the bank's record. The bank's computer sends the user's computer an authorization code together with a bank officer's signature, the date of issue, and the denomination of the PortraitCheques™ ordered together with the number of PortraitCheques™ to be printed in each denomination (232). The bank's computer then terminates the connection (233).

The user's PortraitCheque™ software displays on the user's display monitor the computer screen inquiry "Ready to Print?" (234) with two options -- one for "Yes"; a second option for "No". The user checks to ensure that the PortraitCheque™ check stock is in place in user's computer printer and inserts the check stock if none was previously provided (236). The

user indicates that it is OK to print by clicking the "Yes" option (237). The bank name, check number, denomination, user photograph, user signature and bank guarantee signature are printed by the user's color printer on the PortraitCheque™ check stock (238) to create negotiable PortraitCheques™ (239). The user can then exit the PortraitCheques™ program (240).

PortraitCheques™ may be negotiated by the user (owner) at point of sale, by writing in the name of the payee and signing the user's (owner's) name on the counter signature line of the PortraitCheque™. The payee endorses the reverse side of the PortraitCheque™ and deposits it in the payee's bank account to obtain good funds.

A second further illustrative embodiment of the present invention is as follows. As an alternative to the method of the user's color printer printing the user's picture and signature on the check stock, a PortraitCheque™ check stock vendor preprints the user's color photograph and signature and other information such as the MICR number on the check stock. The user prints the denomination on the PortraitCheque™ stock for use. This alternative has the following advantages:

1. Increases the speed at which PortraitCheques™ are prepared by the user in that the printer time is not devoted to printing the user's color photograph;
2. The check stock can be shipped in larger quantities by the bank or the bank's check stock vendor, safeguarded from theft and use by any other than user because the user's photograph is preprinted on the check stock;
3. Checks pre-printed by the bank or the bank's check stock vendor are printed by a high quality color printer such as a laser color printer -- the color ink is impregnated into the check stock, as opposed to a lower quality color printer such as a color ink jet printer which deposits color on the surface of the check stock and which produces checks which are subject to "bleeding" if exposed to moisture; and
4. the user can rely on a black-and-white printer because the color printing has been pre-printed by the check stock manufacturer.

In this embodiment, the user-to-be accesses the PortraitCheque.com website, or alternatively the PortraitCheque™ option icon at his online banking website to register for PortraitCheque™ services.

**PortraitCheque.com Website.** The PortraitCheque.com website displays a list of participating online banks and credit card companies. The user locates and selects the bank or credit card company of the user's choice. The PortraitCheque.com website directs the user to the chosen bank's website's PortraitCheque™ page. If the user-to-be' preferred bank or credit card is not listed as offering PortraitCheque™ services, the user can select the option of "bank not found." Choosing the "bank not found" option causes the PortraitCheque.com website to display

a bank information screen offering to contact the user by e-mail to notify the user when/if the user's chosen bank or credit card company will offer PortraitCheque™ services in the future.

5           **PortraitCheque™ icon at user's online bank.** The user selects the PortraitCheque™ service sign-up option on the user's online bank's PortraitCheque™ page. This page includes a description of the PortraitCheque™ product, and lists the information that the user must provide in order to register for PortraitCheque™ service. The user is given several options: 1) the user can request that registration materials be mailed to the user (user supplies the user's name and address); 2) the user can print the registration page, complete the hardcopy printout of the page, and fax the completed page to a toll free number; or 3) the user completes an online registration form.

10           In every case the registration form will include the user's full name, social security number, and address. The bank can verify that this information matches the information that the bank already has for the user if the user is an existing customer of the bank. The user also specifies the user's computer manufacturer and model, printer manufacturer and model, and the user's software media preference (e.g., CD ROM or floppy disk) from checklists.

15           The user must also supply a photograph and a sample of the user's signature with the registration form. If the user completes an online application, the user is given the option of scanning the user's photograph and signature exemplar into the online application. Alternatively, the user can request that a pre-paid mailer with a signature form be sent to the user. The pre-paid mailer would contain instructions listing requirements for photo size and type (e.g., specifying that a standard color passport photo is acceptable). User further specifies method of payment. Once the user has completed registering for PortraitCheque™ services, such as with online registration, the user can view online the user's existing accounts and funds available. The user is provided with an online option to use a method of payment other than an account with the bank, such as a credit card. Whatever method of payment and registration is requested or used, the online screen user interface displays an order summary, thanks the user for registering for PortraitCheque™ services and indicating approximately when user will receive his application materials, photo/signature form mailer, or in the case of the fully online registration, when the user will receive PortraitCheque™ check stock and other information as part of a PortraitCheque™ package. Similar information is provided if the user registers by mail.

#### **PortraitCheque Set-up**

20           Once the user has completed registration, the user is sent a PortraitCheque™ package consisting of:

- 25           • Software CD or floppy disk in IBM or MacIntosh format (or alternatively, the software can be downloaded from the PortraitCheque™ website)
- 30           • user manual (or alternatively, the user manual can be downloaded from the

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- PortraitCheque™ website)
- preprinted checkstock on paper most compatible with the user's printer type
  - optional photo-ball hardware (user can scan in his photo and signature for future photo updates and/or store and print his photograph on blank PortraitCheque™ stock, if this procedure is used to print PortraitCheques™ [as previously disclosed])

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The user installs the PortraitCheque™ software on the user's computer. For instance, the user downloads the PortraitCheque™ software from the PortraitCheque™ website or inserts the PortraitCheque™ software CD or floppy disk and proceeds through software installation procedures. During installation, the user provides such information as the specifications for the operating system, the user's configuration of printer drivers, and if applicable configuration of the photo-ball.

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Once the user successfully installs the PortraitCheque™ software and configures the hardware as appropriate, the user is presented with a new account set-up screen. The user is prompted to register the PortraitCheque™ software. Specifically, the user is prompted to enter the PortraitCheque™ software serial number. Next, the user sets up and verifies his PortraitCheque™ password, and enters his initial check stock number. The PortraitCheque™ check stock vendor will have supplied the bank with the correct initial check number. If the initial check number input by the user correctly matches the initial check number provided to the bank by the PortraitCheque™ check stock vendor, an online screen displays a message indicating that sign-up is complete and that the user can begin using the PortraitCheque™ service.

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Although this invention has been described in certain specific embodiments, many additional modifications and variations would be apparent to those skilled in the art. It is, therefore, to be understood that this invention may be practiced otherwise than as specifically described. Thus, the present embodiments of the invention should be considered in all respects as illustrative and not restrictive, the scope of the invention to be determined by the appended claims and their equivalents rather than the foregoing description.

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**WHAT IS CLAIMED IS:**

1. A method for processing negotiable checks for a user having a PC, an input device, a monitor screen, and a printer, the method comprising the steps of:

5 establishing a electronic connection between the PC and a bank computer located at a bank where the user has an account;

10 displaying messages on the screen to prompt the user to enter commands with the input device for the purpose of placing an order for a specified number of checks having a specified denomination or denominations;

15 entering an order into the input device;

programming the PC to accept the order and transmit the order to the bank computer over the electronic connection;

receiving the order at the bank computer;

15 programming the bank computer to debit the user's account at the bank in the amount of the order and to transmit a check printing order to the PC over the electronic connection; and

programming the PC to drive the printer in response to the printing order so as to prepare the specified number of checks having the specified denomination or denominations.

20 2. The method of claim 1, in which bank computer stores an electronic file on the user's account and the step of programming the bank computer additionally programs the bank computer to generate a transaction code that uniquely identifies the order and to record the transaction code and the order in the electronic file on the user's account.

25 3. The method of claim 2, in which the step of programming the bank computer additionally programs the bank computer to transmit the transaction code to the PC over the electronic connection and the PC is programmed to accept and record the transaction code.

30 4. The method of claim 3 in which the PC is programmed to display on the screen a message requesting the user to confirm the printing order prior to preparing the checks and to print the checks only upon receipt of such confirmation.

35 5. The method of claim 4, additionally comprising the step of entering a confirmation into the input device for transmission to the PC.

6. A method for processing negotiable checks for a user having access to an input device, a monitor screen, a printer, and a user-accessible computer programmed to accept check

orders, transmit such orders to a bank computer located at a bank where the user has an account, and drive the printer, the method comprising the steps of:

5 establishing a electronic connection between the user-accessible computer and the bank computer;

displaying messages on the screen to prompt the user to enter commands with the input device for the purpose of placing an order for a specified number of checks having a specified denomination or denominations;

10 entering an order into the input device;

accepting the order with the user-accessible computer;

transmitting the order with the user-accessible computer to the bank computer over the electronic connection;

15 receiving the order at the bank computer, the bank computer being programmed to debit the user account at the bank in the amount of the order and to transmit a check printing order to the user-accessible computer over the electronic connection;

debiting the user account at the bank with the bank computer in the amount of the order and transmitting a check printing order with the bank computer to the user-accessible computer over the electronic connection; and

20 driving the printer with the user-accessible computer in response to the printing order so as to prepare the specified number of checks having the specified denomination or denominations.

7. A method for processing negotiable checks for a user having an account with a bank, having registered with a guarantor, and having access to an input device, a monitor screen, 25 a printer, and a user-accessible computer programmed to accept check orders, transmit such orders to a host computer controlled by the guarantor, and drive the printer, the method comprising the steps of:

establishing an electronic connection between the user-accessible computer and the host computer;

30 displaying messages on the screen to prompt the user to enter commands with the input device for the purpose of placing an order for a specified number of checks having a specified denomination or denominations;

entering an order into the input device;

accepting the order with the user-accessible computer;

35 transmitting the order with the user-accessible computer to the host computer over the electronic connection;

receiving the order at the host computer, the host computer being programmed to debit

the user account at the bank in the amount of the order, credit an account of the guarantor for the amount of the order, and to transmit a check printing order to the user-accessible computer over the electronic connection;

5 debiting the user account at the bank in the amount of the order, crediting the account of the guarantor for the amount of the order, and transmitting a check printing order with the host computer to the user-accessible computer over the electronic connection; and

driving the printer with the user-accessible computer in response to the filled order so as to prepare the specified number of checks having the specified denomination or denominations.

10 8. A method of providing a user with a negotiable financial instrument for an amount of money ordered by the user, the user having an account with a bank, having registered with a guarantor, and having access to an input device, and a user-accessible computer programmed to accept user orders, transmit such orders to a host computer controlled by the guarantor, and drive the user-accessible computer to fill the user's order by transmitting the filled order to the negotiable financial instrument, the method comprising the steps of:

15 establishing an electronic connection between the user-accessible computer and the host computer;

20 prompting the user to enter commands with the input device for the purpose of placing an order for a specified amount of money;

entering an order into the input device;

accepting the order with the user-accessible computer;

transmitting the order with the user-accessible computer to the host computer over the electronic connection;

25 receiving the order at the host computer, the host computer being programmed to debit the user account at the bank in the amount of the order, to credit an account of the guarantor for the amount of the order, and to transmit a filled order to the user-accessible computer over the electronic connection;

debiting the user account at the bank with the host computer in the amount of the order, crediting the account of the guarantor for the amount of the order, and transmitting a filled order with the host computer to the user-accessible computer over the electronic connection; and

30 driving the user-accessible computer in response to the filled order so as to prepare the negotiable financial instrument for an amount of money ordered by the user.

9. The method of claim 8, wherein said negotiable financial instrument is a unique check-like instrument embodying positive identification of the bearer and further embodying guaranteed funds.

10. The method of claim 8, wherein said negotiable financial instrument is a smart card embodying positive identification of the bearer and further embodying guaranteed funds.

11. A system for providing a user with a negotiable financial instrument for an amount of money ordered by the user, the user having an account with a bank, and the user having registered with a guarantor by providing the guarantor with user information, the system comprising:

15 a host computer controlled by the guarantor;

a user input device;

a user-accessible computer;

means for establishing an electronic connection between the user-accessible computer and the host computer;

20 means for prompting the user to enter commands with the input device for the purpose of placing an order for a specified amount of money;

means for entering a user order the specified amount of money into the input device;

means for accepting the user order;

means for transmitting the order with the user-accessible computer to the host computer over the electronic connection;

25 means for receiving the user order at the host computer, the host computer being programmed to debit the user account at the bank in the amount of the order, to credit an account of the guarantor for the amount of the order, and to transmit a filled order to the user-accessible computer over the electronic connection;

means for driving the user-accessible computer in response to the filled order so as to 30 prepare the negotiable financial instrument for an amount of money ordered by the user.

12. The system of claim 11, the system further comprising:

means for debiting the user account at the bank with the host computer in the amount of the order;

35 means for crediting the account of the guarantor for the amount of the order;

means for transmitting an order filled by the host computer to the user-accessible computer over the electronic connection.

13. The system of claim 12, wherein said negotiable financial instrument is a unique check-like instrument embodying positive identification of the bearer and further embodying guaranteed funds.

5

14. The system of claim 13, wherein said negotiable financial instrument is a smart card embodying positive identification of the bearer and further embodying guaranteed funds.

10

15. A central processing unit of a computer programmed to drive a computer accessible by a user to provide the user with a negotiable financial instrument for an amount of money ordered by the user, the user having an account with a bank, the user having registered with a guarantor by providing the guarantor with user information, and the user having access to an input device that is configured to communicate with the user-accessible computer wherein the central processing unit is further programmed to:

15

prompt the user to enter commands with the input device for the purpose of placing an order for a specified amount of money;

20

receive a user order for the specified amount of money;

validate the user's authority to place an order;

confirm that the user has sufficient funds in the bank account to fill the order;

debit the user account at the bank in the amount of the order;

credit an account of the guarantor for the amount of the order;

transmit a filled order to the user-accessible computer over an electronic connection;

drive the user-accessible computer in response to the filled order so as to prepare the negotiable financial instrument for an amount of money ordered by the user.

25

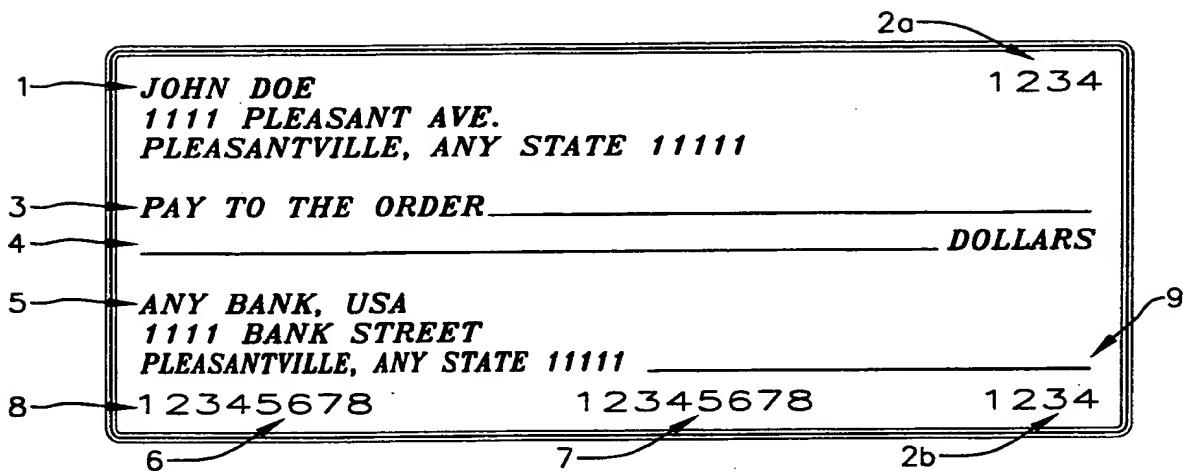
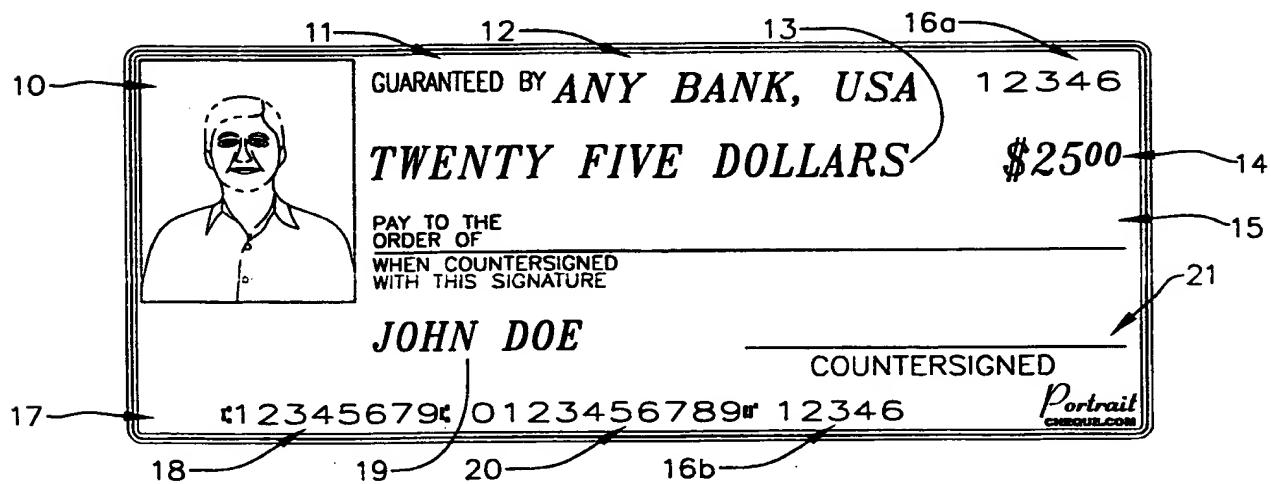
16. The central processing unit of a computer of claim 15, wherein said negotiable financial instrument is a unique check-like instrument embodying positive identification of the bearer and further embodying guaranteed funds.

30

17. The central processing unit of a computer of claim 15, wherein said negotiable financial instrument is a smart card embodying positive identification of the bearer and further embodying guaranteed funds.

35

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**FIG. 1****FIG. 2**

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***FIG.3***

30 → HOW THE ACCOUNT IS HELD  
 31 → FOR EACH ACCOUNT HOLDER:

32 → NAME  
 33 → SOCIAL SECURITY NUMBER  
 34 → DIGITIZED SIGNATURE  
 35 → DIGITIZED PHOTOGRAPH  
 36 → HOME STREET ADDRESS  
 37 → HOME MAILING ADDRESS  
 38 → HOME TELEPHONE NUMBER  
 39 → ONE OR MORE PERSONAL E-MAIL ADDRESSES  
 40 → PORTRAITCHEQUE SECURITY CODE  
 41 → BUSINESS STREET ADDRESS  
 42 → BUSINESS MAILING ADDRESS  
 43 → BUSINESS TELEPHONE NUMBER  
 44 → FOR EACH BANK IDENTIFICATION AND BANK ACCOUNT NUMBER FOR ONE OR MORE BANKS  
       AND FOR ONE OR MORE ACCOUNTS IN EACH BANK  
 45 → BANK ID  
 46 → BANK ELECTRONIC ROUTING NUMBER  
 47 → USER'S BANK ACCOUNT NUMBER  
 48 → PIN  
 (48a) → BALANCE  
 (48b) → DAILY LIMIT  
 (48c) → DAILY AMOUNT ORDERED  
 49 → FOR EACH CREDIT COMPANY AND CREDIT CARD ACCOUNT NUMBER FOR ONE OR MORE CREDIT  
       COMPANIES AND FOR ONE OR MORE ACCOUNTS WITH EACH CARD COMPANY  
 50 → CREDIT COMPANY ID  
 51 → CREDIT CARD ACCOUNT NUMBER  
 52 → PIN  
 (52a) → AVAILABLE CREDIT LIMIT  
 (52b) → DAILY LIMIT  
 (52c) → DAILY AMOUNT ORDERED  
 53 → FOR EACH PORTRAITCHEQUE CHECK STOCK SUPPLIED TO USER UNDER GUARANTOR'S ACCOUNT  
 54 → PORTRAITCHEQUE CHECK NUMBER  
 55 → FOR EACH PORTRAITCHEQUE CHECK ORDERED BY THE USER  
 56 → CHECK AMOUNT ORDERED  
 57 → DATE ORDERED  
 58 → ACCOUNT(CREDIT OR BANK)FROM WHICH ORDERED  
 59 → AMOUNT DEBITED FROM USER'S ACCOUNT  
 60 → CHECK AMOUNT PRESENTED  
 61 → DATE PRESENTED  
 62 → DIFFERENCE BETWEEN AMOUNT ORDERED AND AMOUNT PRESENTED  
 63 → AMOUNT DEBITED DUE TO DIFFERENCE  
 64 → DATE DIFFERENCE DEBITED  
 65 → PORTRAITCHEQUE CHECK NUMBER ORDERED  
 66 → PORTRAITCHEQUE CHECK NUMBER PRESENTED  
 67 → DATE ON WHICH PORTRAITCHEQUE CHECK NUMBER SUPPLIED TO USER

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## FIG. 4

*Portrait*  
**CHEQUE.COM**

**MEMBER SIGN-ON:**

PLEASE FILL OUT THE DATA IN THE THREE(3) FIELDS BELOW TO GAIN ACCESS TO THE PORTRAITCHEQUE MEMBERS SECTION.  
ALL FIELDS ARE REQUIRED!

(1) ENTER YOUR NAME      (2) ENTER YOUR SOCIAL SECURITY #  
 100       101

(3) ENTER YOUR PASSWORD\*  
 102

103

\*FORGOT YOUR PASSWORD? CALL US AT (888)555-5555 FOR VERIFICATION.  
PLEASE HAVE YOUR SOCIAL SECURITY #, ACCOUNT INFORMATION AND  
PORTRAITCHEQUE ID READY.

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***FIG. 5***

**Portrait  
CHEQUE.COM**

**HOME**    **HELP**

---

**STEP 1-DETERMINE THE GENERAL PARAMETERS**

PLEASE FILL IN ALL FIELDS ON THIS PAGE, THEN CLICK THE "CONTINUE PRINTING CHECKS" BUTTON BELOW.

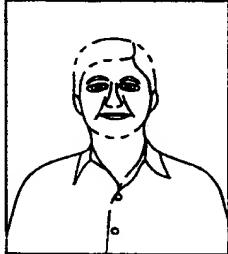
SELECT ACCOUNT	<input style="border: 1px solid black; padding: 2px 10px; width: 150px; height: 20px; border-radius: 5px;" type="button" value="PRIMARY CHECKING"/> 110
STARTING CHECK NUMBER	<input style="border: 1px solid black; padding: 2px 10px; width: 150px; height: 20px; border-radius: 5px;" type="text" value="12345"/> 111

---

DENOMINATION BREAKDOWN—SELECT HOW MANY OF EACH CHECK DENOMINATION YOU WANT TO PRINT

112 →	<input style="border: 1px solid black; padding: 2px 10px; width: 150px; height: 20px; border-radius: 5px;" type="text" value="NUMBER OF CHECKS"/> 2	▼	<input style="border: 1px solid black; padding: 2px 10px; width: 150px; height: 20px; border-radius: 5px;" type="text" value="DENOMINATION"/> \$ 25	▼	115
113 →	<input style="border: 1px solid black; padding: 2px 10px; width: 150px; height: 20px; border-radius: 5px;" type="text" value="NUMBER OF CHECKS"/> 1	▼	<input style="border: 1px solid black; padding: 2px 10px; width: 150px; height: 20px; border-radius: 5px;" type="text" value="DENOMINATION"/> \$ 50	▼	116
114 →	<input style="border: 1px solid black; padding: 2px 10px; width: 150px; height: 20px; border-radius: 5px;" type="text" value="NUMBER OF CHECKS"/> 1	▼	<input style="border: 1px solid black; padding: 2px 10px; width: 150px; height: 20px; border-radius: 5px;" type="text" value="DENOMINATION"/> \$100	▼	117

118 →



GUARANTEED BY **ANY BANK, USA** 12345

121

PAY TO THE ORDER OF \_\_\_\_\_

WHEN COUNTERSIGNED WITH THIS SIGNATURE

**JOHN DOE**

COUNTERSIGNED

12345679 0123456789 12346

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CHEQUE.COM

119 →

120 →

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**FIG. 6**

HOME

HELP

**STEP 1-(CONT.)-VERIFY YOUR ENTRY**

BELOW IS THE OUTPUT THAT CAME FROM YOUR FORM SUBMISSION.

130

IF ANY ITEM IS INCORRECT OR ANY FIELDS ARE MISSING IN THIS TABLE, PLEASE HIT THE "BACK" BUTTON ON YOUR BROWSER TO RETURN TO THE CONFIG PAGE.

ACCOUNT TYPE	STARTING CHECK #	\$25	\$50	\$100	TOTAL DOLLAR AMOUNT \$	TOTAL # OF CHECKS TO PRINT
CHECKING	12345	2	1	1	200	4

131

132

133

134

135

136

137

138

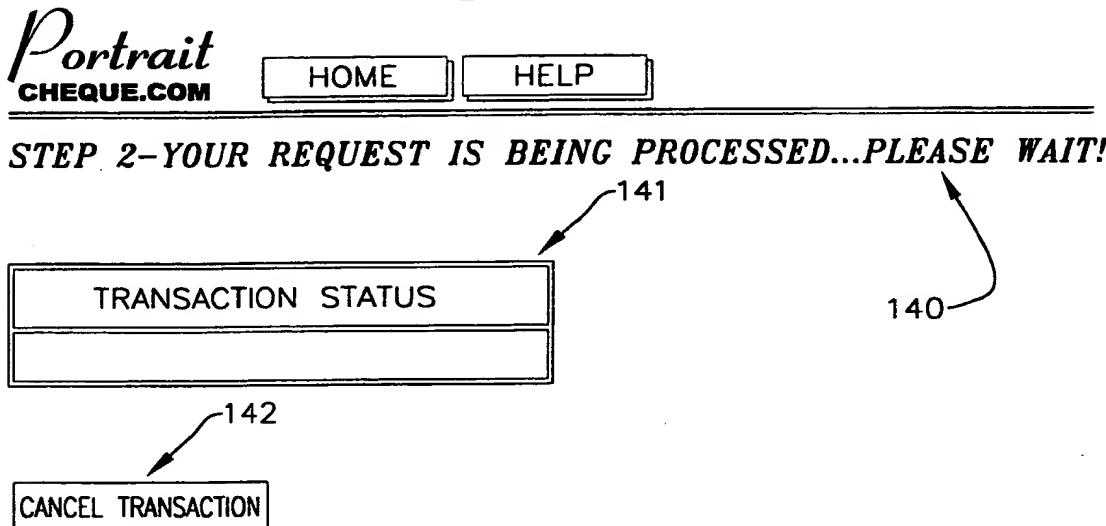
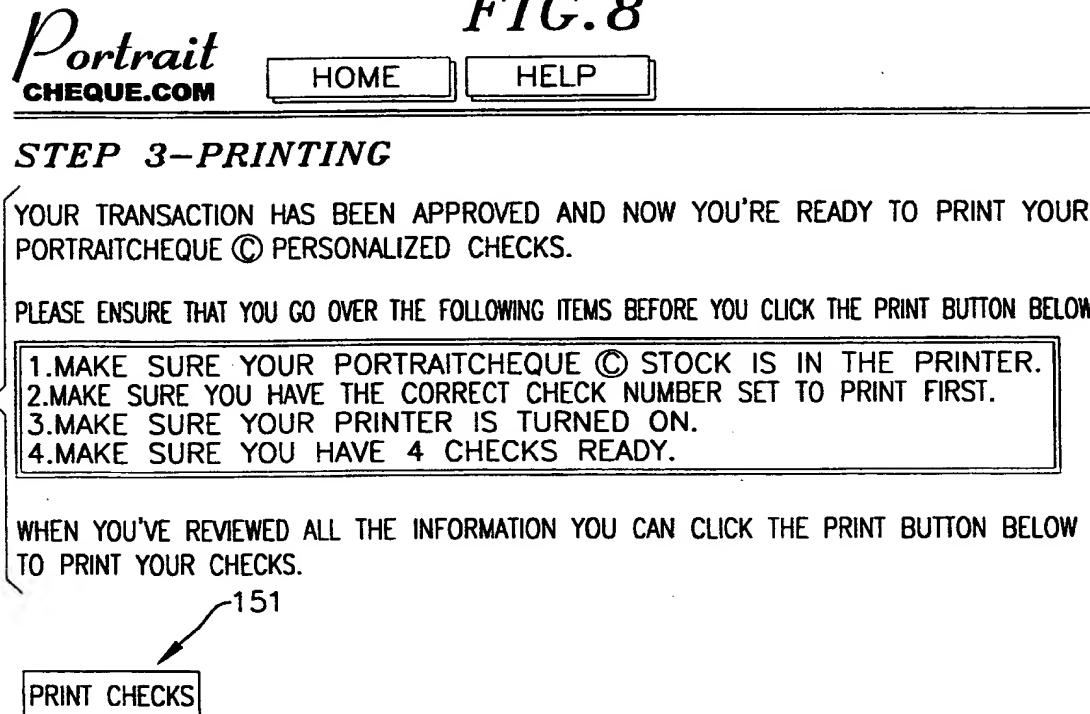
	GUARANTEED BY <b>ANY BANK, USA</b>	12345
PAY TO THE ORDER OF _____		
WHEN COUNTERSIGNED WITH THIS SIGNATURE		
COUNTERSIGNED		
12345679 0123456789 12346		Portrait CHEQUE.COM

PRINT CHECKS

139

**SUBSTITUTE SHEET (RULE 26)**

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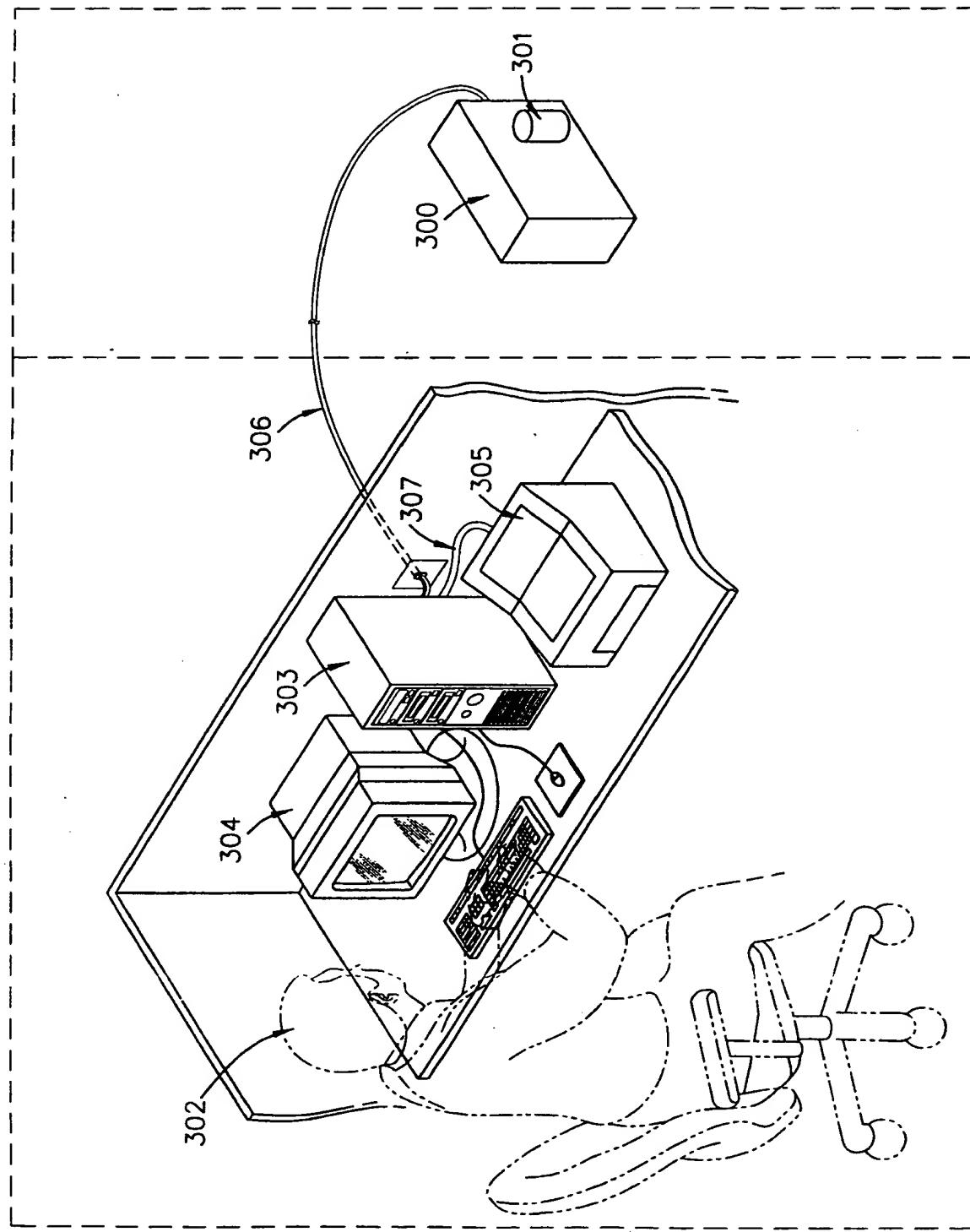
***FIG. 7******FIG. 8***

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FIG. 9

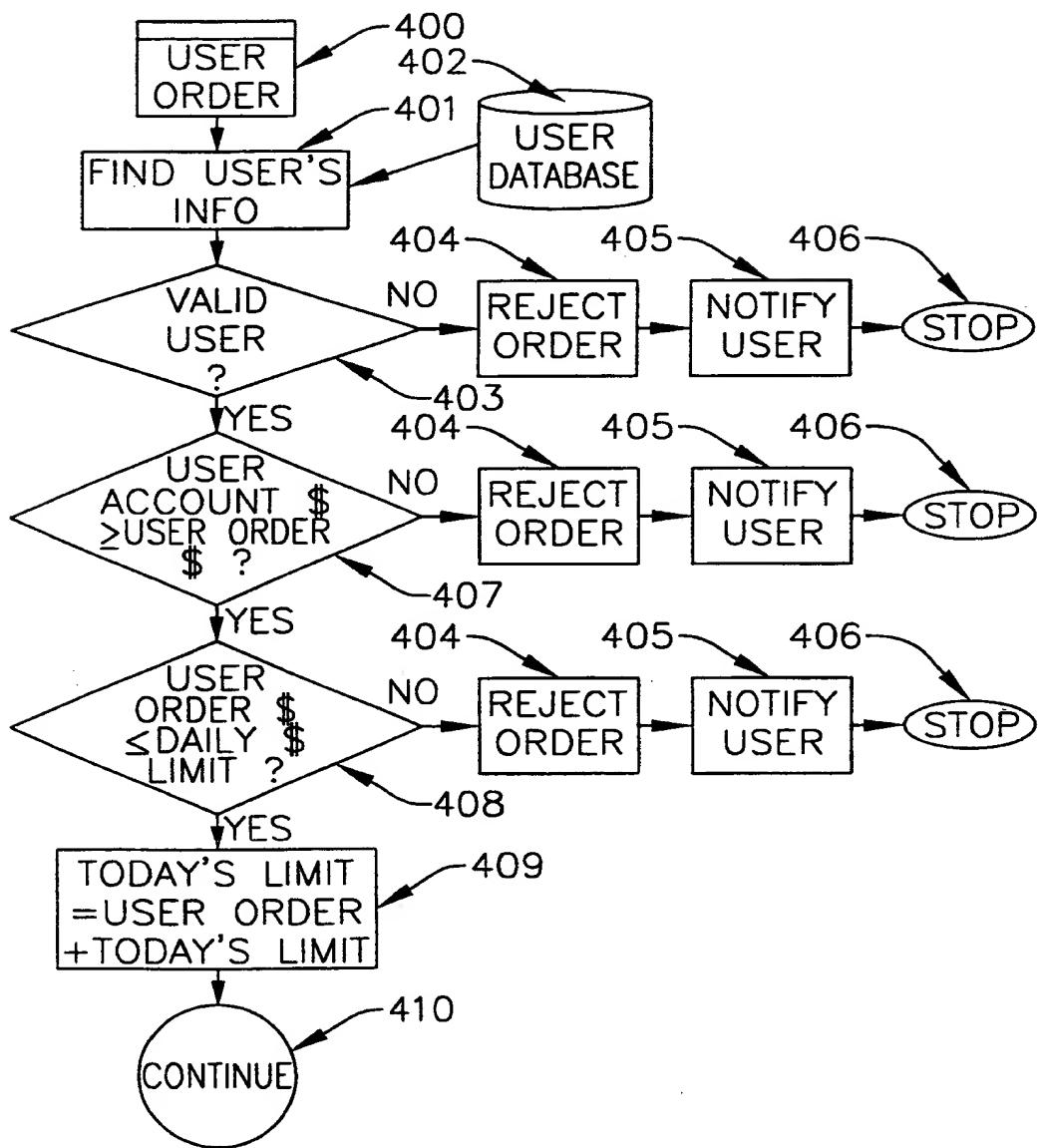
DATE _____	GUARANTEED BY <b>ANY BANK, USA</b> 12345		
PAY TO _____	<b>TWENTY FIVE DOLLARS</b> \$2500		
AMOUNT <b>\$25.00</b>	160	161	
MEMO _____	PAY TO THE ORDER OF _____ WHEN COUNTERSIGNED WITH THIS SIGNATURE		
CATEGORY _____	<b>JOHN DOE</b> 166		
ACCOUNT <b>56781234</b>	COUNTERSIGNED 12345679 0123456789 12345 <i>Portrait</i> <small>CHQUE.COM</small>		
DATE _____	GUARANTEED BY <b>ANY BANK, USA</b> 12346		
PAY TO _____	<b>TWENTY FIVE DOLLARS</b> \$2500		
AMOUNT <b>\$25.00</b>	160	161	
MEMO _____	PAY TO THE ORDER OF _____ WHEN COUNTERSIGNED WITH THIS SIGNATURE		
CATEGORY _____	<b>JOHN DOE</b> 166		
ACCOUNT <b>56781234</b>	COUNTERSIGNED 12345679 0123456789 12346 <i>Portrait</i> <small>CHQUE.COM</small>		
DATE _____	GUARANTEED BY <b>ANY BANK, USA</b> 12347		
PAY TO _____	<b>FIFTY DOLLARS</b> \$5000		
AMOUNT <b>\$50.00</b>	162	163	
MEMO _____	PAY TO THE ORDER OF _____ WHEN COUNTERSIGNED WITH THIS SIGNATURE		
CATEGORY _____	<b>JOHN DOE</b> 166		
ACCOUNT <b>56781234</b>	COUNTERSIGNED 12345679 0123456789 12347 <i>Portrait</i> <small>CHQUE.COM</small>		
DATE _____	GUARANTEED BY <b>ANY BANK, USA</b> 12348		
PAY TO _____	<b>ONE HUNDRED DOLLARS</b> \$10000		
AMOUNT <b>\$100.00</b>	164	165	
MEMO _____	PAY TO THE ORDER OF _____ WHEN COUNTERSIGNED WITH THIS SIGNATURE		
CATEGORY _____	<b>JOHN DOE</b> 166		
ACCOUNT <b>56781234</b>	COUNTERSIGNED 12345679 0123456789 12348 <i>Portrait</i> <small>CHQUE.COM</small>		

SUBSTITUTE SHEET (RULE 26)

**FIG. 10**

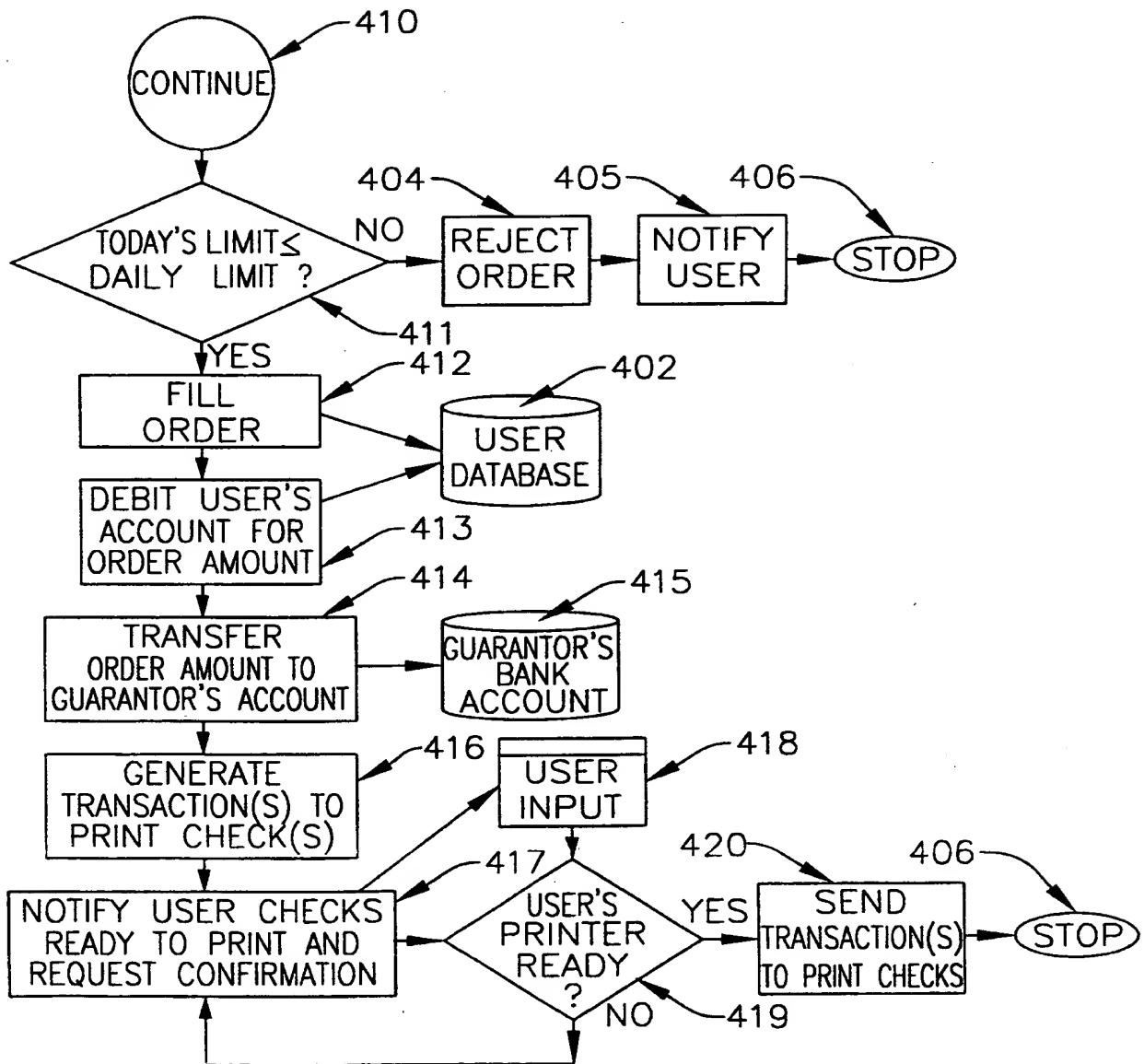
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FIG. 11a



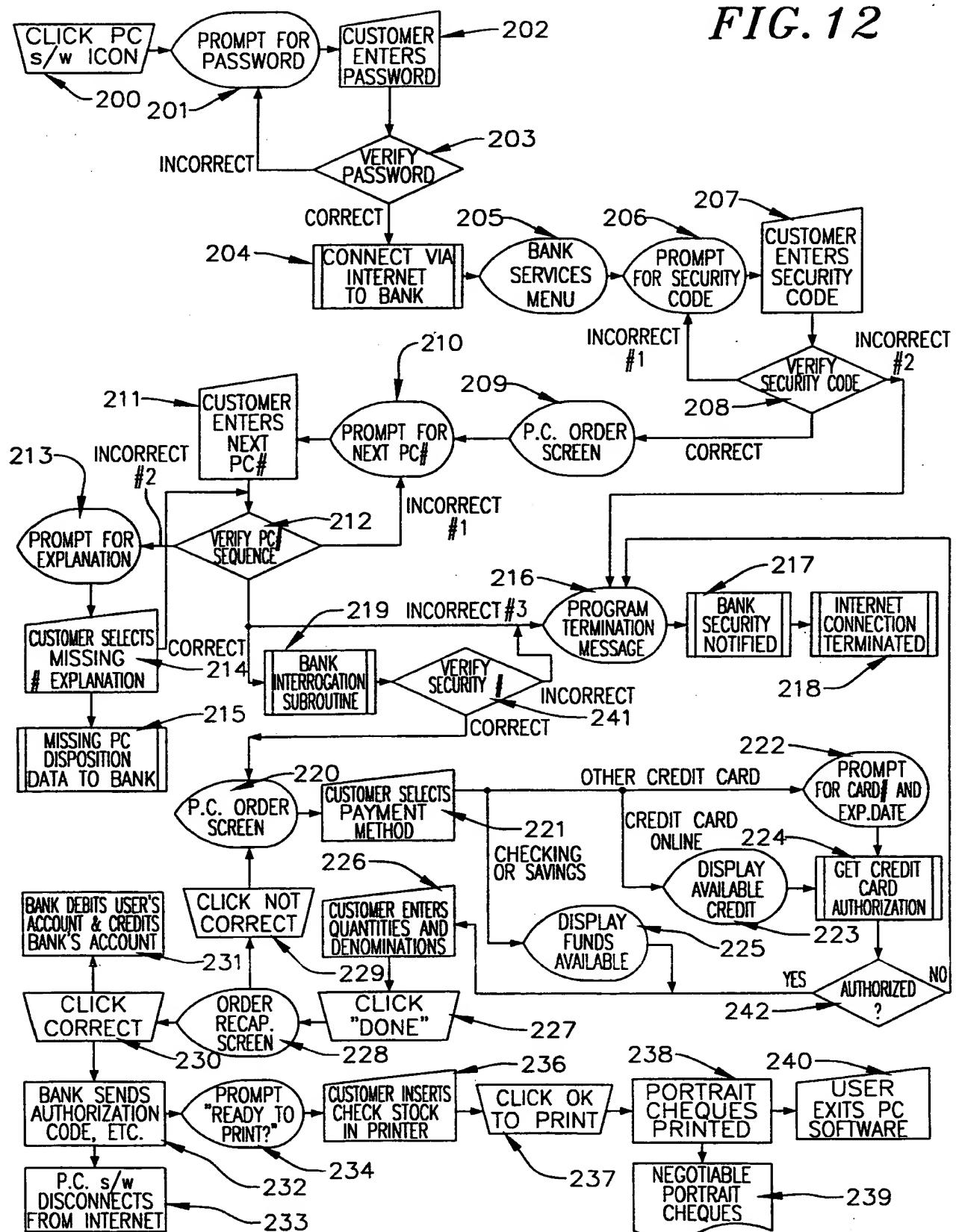
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FIG. 11b



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FIG. 12



## INTERNATIONAL SEARCH REPORT

International application No.

PCT/US99/14253

## A. CLASSIFICATION OF SUBJECT MATTER

IPC(6) : G06F 15/30

US CL : 705/39; 283/58; 382/118, 119

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 705/39; 283/58; 382/118, 119

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

APS, DIALOG

search terms: check, traveler's check, credit card, photo, photograph, picture, secure, fraud, fraudulent

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 4,083,635 A (REED, JR) 11 April 1978, abstract, Figure 3	1-17
Y,P	US 5,748,755 A (JOHNSON et al) 05 May 1998, abstract, Figures 2 and 3.	1-17
A, P	US 5,838,814 A (MOORE) 17 November 1998, abstract	1-17
A, P	US 5,863,074 A (WILKINSON) 26 January 1999, abstract.	1-17
A	US 5,484,988 A (HILLS et al.) 16 January 1996, abstract.	1-17
A	US 4,593,936 A (OPEL) 10 June 1986, abstract.	1-17

 Further documents are listed in the continuation of Box C.  See patent family annex.

* Special categories of cited documents:	"T"	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
*A* document defining the general state of the art which is not considered to be of particular relevance	"X"	document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
*E* earlier document published on or after the international filing date	"Y"	document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
*L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"&"	document member of the same patent family
*O* document referring to an oral disclosure, use, exhibition or other means		
*P* document published prior to the international filing date but later than the priority date claimed		

Date of the actual completion of the international search

07 SEPTEMBER 1999

Date of mailing of the international search report

22 OCT 1999

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Commissioner of Patents and Trademarks  
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Washington, D.C. 20231

Facsimile No. (703) 305-3230

Authorized officer

M. DAVID SOFOCLEOUS

Telephone No. (703) 305-9714

## **INTERNATIONAL SEARCH REPORT**

International application No.  
PCT/US99/14253

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A, P	US 4,865,351 A (SMITHSON et al.) 12 September 1998, abstract.	1-17
A	Coming June 13: Bank One Launches First Personalized Photo Card for Credit Card and Checking Card Customers in Colorado.	1-17
A	May 1994.	
A	Clarke American Expands Security Precaution, Joins National Movement to Battle Check Fraud. Texas Banking.	1-17
A	February 1995.	
A	Vol. 84, No. 2, Page 10.	

1/13

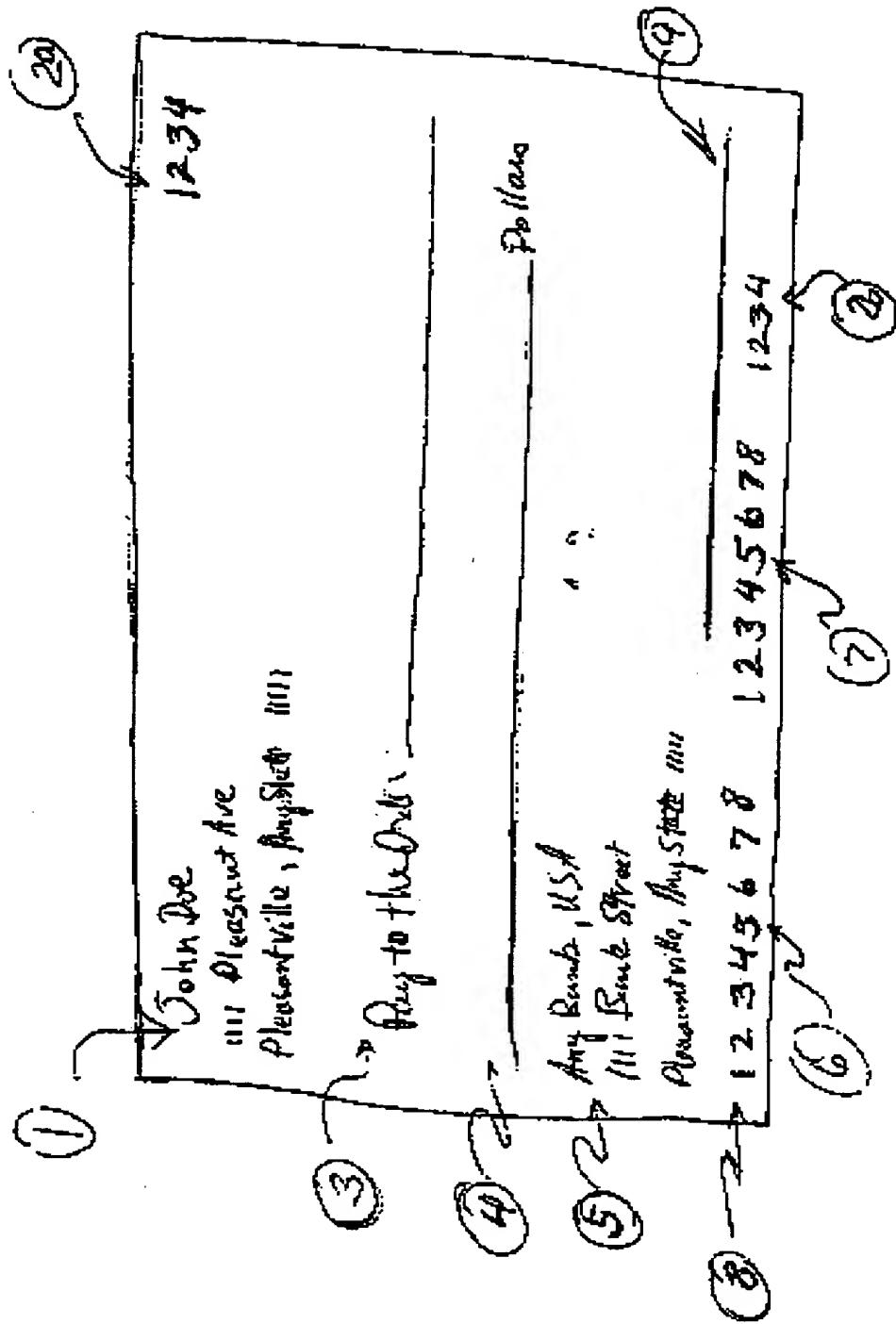


FIG. 1

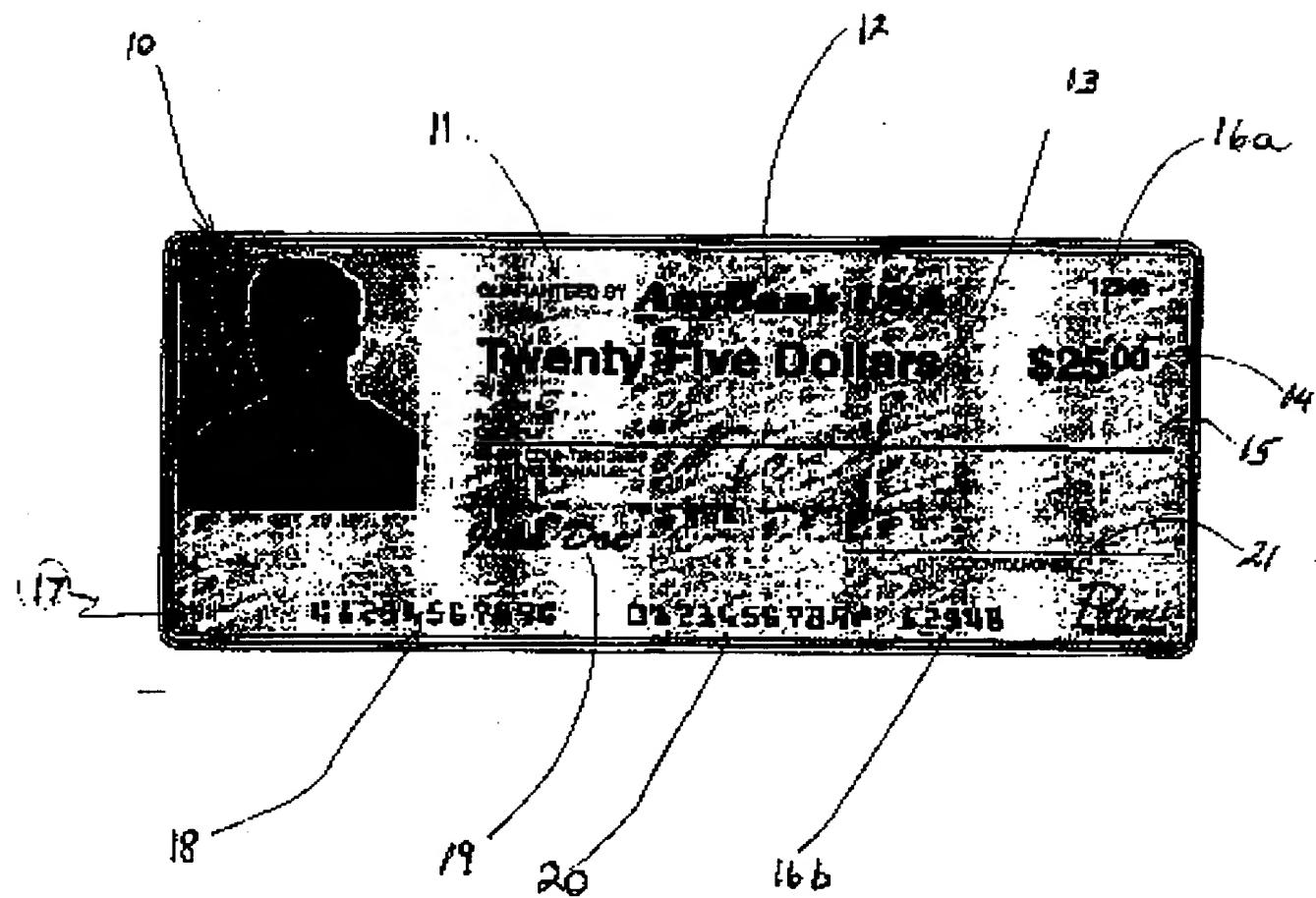


FIG. 2

## FIG. 3

- 30 → How the account is held  
 31 → For each account holder:  
 32 → - Name  
 33 → - Social Security number  
 34 → - Digitized Signature  
 35 → - Digitized Photograph  
 36 → - Home Street Address  
 37 → - Home Mailing Address  
 38 → - Home telephone number  
 39 → - one or more personal e-mail addresses  
 40 → - PortraitCheque security code
- 41 → - Business Street Address  
 42 → - Business Mailing Address  
 43 → - Business telephone number  
 44 → - For each Bank identification and Bank Account number for one or more banks and for one or more accounts in each bank  
 45 → - Bank ID  
 46 → - Bank electronic routing number  
 47 → - user's Bank account number  
 48 → - PIN  
 49 → - For each Credit Company and Credit Card account number for one or more credit companies and for one or more accounts with each card company  
 50 → - Credit Company ID  
 51 → - Credit card account number  
 52 → - PIN  
 53 → - For each PortraitCheque check stock supplied to user under Guarantor's account  
 54 → - PortraitCheque check number  
 55 → - For each PortraitCheque check ordered by the user  
 56 → - Check amount ordered  
 57 → - date ordered  
 58 → - Account (credit or bank) from which ordered  
 59 → - amount debited from user's account  
 60 → - Check amount presented  
 61 → - date presented  
 62 → - difference between amount ordered and amount presented  
 63 → - amount debited due to difference  
 64 → - date difference debited  
 65 → - PortraitCheque check number ordered  
 66 → - PortraitCheque check number presented  
 67 → - Date on which PortraitCheque check number supplied to user
- (48a)*  
*(48b)*  
*(48c)*  
*(52a)*  
*(52b)*  
*(52c)*



## Member Sign-On:

Please fill out the data in the three (3) fields below to gain access to the Portraitcheque members section.  
All fields are required:

(1) Enter your Name <input type="text" value="John Doe"/>	(2) Enter your Social Security # <input type="text" value="123-45-6789"/>
(3) Enter your Password* <input type="password" value="*****"/>	
<input type="button" value="Click Here to Proceed!"/>	

\* Forgot your password? Call us at (888) 555-5555 for verification. Please have your Social Security #, Account Information and Portraitcheque ID ready.

Fig. 4